

WHAT IS CLAIMED IS:

1. A liquid crystal display device, comprising:
first and second substrates facing and spaced apart from each other;
a retardation layer on an outer surface of the first substrate;
a linear polarizing layer on the retardation layer;
a cholesteric liquid crystal color filter (CCF) layer on an inner surface of the second substrate;
a liquid crystal layer between the first substrate and the CCF layer;
a first cholesteric liquid crystal (CLC) polarizing layer on an outer surface of the second substrate and having a first helical pitch of a first circular polarization direction;
a second cholesteric liquid crystal (CLC) polarizing layer on the first CLC polarizing layer, the second CLC polarizing layer having a second helical pitch of a second circular polarization direction opposite to the first circular polarization direction; and
a backlight unit outside the second CLC polarizing layer.
2. The device according to claim 1, wherein the first helical pitch is discrete and the second helical pitch is continuous.
3. The device according to claim 2, wherein the first helical pitch corresponds to bands of wavelengths adjacent to red, green and blue colors, and the second helical pitch corresponds to a broadband of wavelength.

4. The device according to claim 3, the CCF layer has a third helical pitch of a third circular polarization direction the same as the first circular polarization direction.

5. The device according to claim 3, the third helical pitch corresponds to bands of wavelengths of red, green and blue colors.

6. The device according to claim 3, the first to third circular polarization direction is one of right-handedness and left-handedness.

7. The device according to claim 1, wherein the first helical pitch is continuous and the second helical pitch is discrete.

8. The device according to claim 1, further comprising a diffusing layer between the first substrate and the retardation layer.

9. The device according to claim 8, further comprising a compensation layer of viewing angle between the retardation layer and the linear polarizing layer.

10. The device according to claim 1, wherein the backlight unit emits light of a spectrum having peaks at wavelength bands corresponding to red, green and blue colors.

11. The device according to claim 1, wherein the retardation layer is a quarter wave plate.

12. A liquid crystal display device, comprising:
first and second substrates facing and spaced apart from each other;
a diffusing layer on an outer surface of the first substrate;
a first linear polarizing layer on the diffusing layer;
a cholesteric liquid crystal color filter (CCF) layer on an inner surface of the second substrate;
a retardation layer on the CCF layer;
a second linear polarizing layer on the retardation layer;
a liquid crystal layer between the first substrate and the second linear polarizing layer;
a first cholesteric liquid crystal (CLC) polarizing layer on an outer surface of the second substrate and having a first helical pitch of a first circular polarization direction;
a second cholesteric liquid crystal (CLC) polarizing layer on the first CLC polarizing layer, the second CLC polarizing layer having a second helical pitch of a second circular polarization direction opposite to the first circular polarization direction; and
a backlight unit outside the second CLC polarizing layer.

13. The device according to claim 12, wherein the first helical pitch is discrete and the second helical pitch is continuous.

14. The device according to claim 13, wherein the first helical pitch corresponds to bands of wavelengths adjacent to red, green and blue colors, and the second helical pitch corresponds to a broadband of wavelength.

15. The device according to claim 14, the CCF layer has a third helical pitch of a third circular polarization direction the same as the first circular polarization direction.

16. The device according to claim 14, the third helical pitch corresponds to bands of wavelengths of red, green and blue colors.

17. The device according to claim 14, the first to third circular polarization direction is one of right-handedness and left-handedness.

18. The device according to claim 12, wherein the first helical pitch is continuous and the second helical pitch is discrete.

19. The device according to claim 12, further comprising a compensation layer of viewing angle between the diffusing layer and the first linear polarizing layer.

20. The device according to claim 12, wherein the backlight unit emits light of a spectrum having peaks at wavelength bands corresponding to red, green and blue colors.